WHAT IS CLAIMED IS:

1. A radio communication system, comprising:

a plurality of radio base stations having respective service areas;

a mobile radio terminal configured to transmit a data transmission request through one radio base station and receive requested data through at least one radio base stations;

a radio control station connected with the radio base stations and having:

a moving route prediction unit configured to predict a moving route of the mobile radio terminal according to a terminal location information obtained from the mobile radio terminal upon receiving the data transmission request; and

a server unit configured to select those radio base stations which have service areas containing at least a part of the moving route predicted by the moving route prediction unit, and deliver the requested data to selected radio base stations.

2. The radio communication system of claim 1, wherein the terminal location information is an identifier of the one radio base station through which the data transmission request is transmitted, which is contained in the data transmission request; and

the moving route prediction unit predicts the moving route of the mobile radio terminal from information on a location of the one radio base station identified by the identifier.

3. The radio communication system of claim 1, wherein the mobile radio terminal has a global positioning system function, and periodically transmits the terminal location

information containing a longitude and a latitude of a current location of the mobile radio terminal obtained by the global positioning system function, to the radio control station.

4. The radio communication system of claim 1, wherein each radio base station has:

a beam formation unit configured to simultaneously form a plurality of space dividing beams; and

an antenna device having a plurality of antenna elements configured to send the requested data to the mobile radio terminal by transmitting one of the plurality of space dividing beams toward the mobile radio terminal.

5. The radio communication system of claim 4, wherein the antenna device of each radio base station controls a directivity of one of the antenna elements toward a direction of a location at which the mobile radio terminal will stop when a service area of each radio base station contains the location at which the mobile radio terminal will stop.

6. A radio control station in a radio communication system formed by a plurality of radio base stations having respective service areas and a mobile radio terminal configured to transmit a data transmission request through one radio base station and receive requested data through at least one radio base stations, the radio control station comprising;

a moving route prediction unit configured to predict a moving route of the mobile radio terminal according to a terminal location information obtained from the mobile radio terminal upon receiving the data transmission request from the mobile radio terminal through the one radio base station; and

a server unit configured to select those radio base stations which have service areas containing at least a part of the moving route predicted by the moving route prediction unit, and deliver requested data to selected radio base stations.

7. The radio control station of claim 6, wherein the terminal location information is an identifier of the one radio base station through which the data transmission request is transmitted, which is contained in the data transmission request; and

the moving route prediction unit predicts the moving route of the mobile radio terminal from information on a location of the one radio base station identified by the identifier.

8. The radio control station of claim 6, wherein the moving route prediction unit periodically receives the terminal location information containing a longitude and a latitude of a current location of the mobile radio terminal obtained by a global positioning system function provided in the mobile radio terminal.

9. The radio control station of claim 6, wherein the server unit estimates a transmittable data amount indicating an amount of data that can be transmitted to the mobile radio terminal at each selected radio base station, and determines a delivery data amount indicating an amount of data to be delivered to each selected radio base station according to the transmittable data amount estimated for each selected radio base station.

10. The radio control station of claim 9, wherein the server unit estimates the transmittable data amount according to a product of a time for which the mobile radio

terminal stays within the service area of each selected radio base station and a data transmission speed between each selected radio base station and the mobile radio terminal.

11. The radio control station of claim 9, wherein the server unit also judges whether the mobile radio terminal will stop on the moving route predicted by the moving route prediction unit or not, and estimates additional transmittable data amount indicating an amount of data that can be transmitted to the mobile radio terminal at each selected radio base station while the mobile radio terminal is stopping, when it is judged that the mobile radio terminal will stop.

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12. The radio control station of claim 11, wherein the server unit increases the delivery data amount for a radio base station having a service area that contains a location at which the mobile radio terminal will stop, according to the additional transmittable data amount.

13. The radio control station of claim 11, wherein the server unit delivers all the requested data to a radio base station having a service area that contains a location at which the mobile radio terminal will stop, when the additional transmittable data amount is sufficient to transmit all the requested data to the mobile radio terminal.

14. The radio control station of claim 11, wherein the server unit judges whether the mobile radio terminal will stop on the moving route or not, according to information on a signal change pattern of a traffic signal existing on the moving route.

15. The radio control station of claim 9, wherein the server unit estimates the transmittable data amount by accounting for a time required for a re-transmission control and/or a redundant transmission control.

16. The radio control station of claim 9, wherein the server unit delivers to each selected radio base station a part of the requested data corresponding to the delivery data amount for each selected radio base station and any non-received data of the requested data that were transmitted from other selected radio base stations earlier but not correctly received by the mobile radio terminal.

17. The radio control station of claim 6. wherein the moving route prediction unit predicts the moving route according to the terminal location information and traffic information.

18. The radio control station of claim 17, wherein the traffic information includes at least one of a moving speed of the mobile radio terminal, a legal speed limit on the moving route, a current moving speed of vehicles existing on the moving route, and a signal change pattern of a traffic signal existing on the moving route.

19. A radio communication method in a radio communication system formed by a plurality of radio base stations having respective service areas and a mobile radio terminal configured to transmit a data transmission request through one radio base station and receive requested data through at least one radio base stations, the radio communication method comprising;

predicting a moving route of the mobile radio terminal according to a terminal location information obtained from the mobile radio terminal upon receiving the data

transmission request from the mobile radio terminal through the one radio base station at a radio control station;

selecting those radio base stations which have service areas containing at least a part of the moving route predicted by the predicting step at the radio control station; and

delivering requested data from the radio control station to those radio base stations selected by the selecting step.

20. A computer usable medium having computer readable program codes embodied therein for causing a computer to function as a radio control station in a radio communication system formed by a plurality of radio base stations having respective service areas and a mobile radio terminal configured to transmit a data transmission request through one radio base station and receive requested data through at least one radio base stations, the computer readable program codes include:

a first computer readable program code for causing said computer to predict a moving route of the mobile radio terminal according to a terminal location information obtained from the mobile radio terminal upon receiving the data transmission request from the mobile radio terminal through the one radio base station; and

a second computer readable program code for causing said computer to select those radio base stations which have service areas containing at least a part of the moving route predicted by the moving route prediction unit, and deliver requested data to selected radio base stations.